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Feed Stuff Analyses

DEFINITIONS OF FEEDING STUFFS, Pages 19-22

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ADDRESS
DEPARTMENT OF CHEMISTRY,
UNIVERSITY OF MARYLAND
COLLEGE PARK, MARYLAND

ANALYSES OF

Feeds Sold in Maryland

BY THE

UNIVERSITY OF MARYLAND

DEPARTMENT OF CHEMISTRY

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This bulletin contains the results of analysis of samples feeding stuffs obtained from June, 1920, to May, 1921, inclusive. The work of feed inspection was greatly increased by the more comprehensive law of 1920, covering practically all feeds, except "Whole seeds or grains". "The unmixed meals made directly from the entire grains of corn, wheat, rye, barley, oats,. . . .," and "Materials containing 60 per cent. or more of water".

The samples examined were mostly drawn by regular inspectors from shipments made in Baltimore, or at dealers' warehouses, railroad stations, wharves, etc., in Baltimore and throughout the State.

FEED ANALYSIS.

A complete analysis of a feed separates it into its constitutional parts, or groups of constituents having similar properties. The usual constituents are water, ash, protein, fat, fiber and nitrogen-free extract.

WATER is present in all feeds and is an important article of commerce in this way. Old grain, called "dry," will contain about 10 percent, while new grain will contain more. If the amount is over 14 or 15 percent the grain or feed is very liable to mold and ferment. Fresh fruits and vegetables, as cabbage, turnips, etc., frequently contain over 90 percent of water. The water content of feed will change on storage, the amount of change depending on the condition at the start, method of storing, temperature and humidity of the air, etc. If the feed has been kiln-

dried, as with dried brewer's or distiller's grains, molasses feed, etc., gain in weight is common. This would be indicated if the packages weigh more than the guaranteed weight and, in that case, a corresponding decrease in the percent of the other constituents should be expected. On the other hand, should the material lose moisture, a corresponding increase in the percent of the other constituents (but not in the actual amount) occurs.

The changes in moisture content are very important in connection with sampling and analysis and the proper care of samples for analysis—points which are liable to be entirely overlooked by those who have not been instructed in such matters.

ASH, as its name indicates, is the part of the feed which remains after burning. It is the mineral part, which has its origin in the minerals of the earth (soil). All other parts of the feed have their origin, either directly or indirectly, from the air.

PROTEIN, or crude protein, is the nitrogenous part, calculated from the nitrogen by multiplying it by 6.25. It includes albumens and other nitrogenous bodies not so valuable as food. Protein is essential for the formation of flesh, nerves, hair, feathers, etc., in fact nearly all tissues of the animal body, except fat, and it may serve to form fat.

FAT, or "crude fat," is the ether extract obtained by treating the dry substance with ether. In the case of grains, seeds, nuts and flesh it is nearly pure fat and oil, but with hay, grasses and coarse fodders it contains considerable amounts of wax, gum, etc. It is often a valuable constituent of feed, is the most concentrated form of energy, and serves to build fat in the animal when in excess of its immediate energy requirements. Large amounts of fat are not tolerated by farm animals, as a rule.

FIBER, or "crude fiber," is the fibrous, woody part, not soluble in ether, dilute acid or alkali. It is largely indigestible, but serves to give the ration proper bulk. The digestibility varies with the nature of the fiber and the kind of animal. The amount of fiber is small in flesh, cereal grains and nuts, but large in stems, stalks, hays, straws, fodders, husks, hulls, cobs, etc., and its amount, as shown by analyis, indicates the presence of such materials.

NITROGEN-FREE EXTRACT, sometimes called "carbohydrates," or "soluble carbohydrates" (thereby excluding the fiber, which is an insoluble carbohydrate), is obtained by finding the amounts of the constituents enumerated above and subtracting this sum from 100 percent. It includes starch, sugars, pentosans, etc., which may be determined separately.

For inspection purposes it is generally sufficient to determine the amount of protein, fat and fiber, as this will indicate if the feed has been adulterated with inferior coarse material, such as hulls, straws, cobs, etc., as such substances are low in protein and fat but high in fiber.

In the following table the analyses are given in percentage, or pounds in a hundred.

Definitions of feeding stuffs will be found on pages 19-22.

No.	Name of Manufacturer and Feeding Stuffs.	Place of Sampling.	Protein.		Fat or Ether Extract		Crude Fiber.	
			FOUND.	Guaranteed.	FOUND.	Guaranteed.	FOUND.	Guaranteed.
40679	Acme Evans Co., Indianapolis, Ind. Stock Feed	Grantsville	9.21	9.00	3.65	3.50	11.32	10.00
40458	Akron Feed & Milling Co., Akron Ohio Portage Stock Feed	Grantsville	10.44	9.00	3.73	4.00	10.65	9.00
40537	Alabama Black Belt Co., Montgomery Ala. Velvet Bean and Pod Feed	Baltimore	18.95	16.50	3.46	4.00	13.20	15.00
40598	American Agricultural Chemical Co., Balto. Md. Protox Pure Ground Meat Scraps	Baltimore	48.96	55.00	13.85	10.00	1.70	
40502	American Linseed Co., New York, N. Y. Old Process Oil Cake	Maple Grove	32.77	32.00	6.37	5.00	8.60	8.00
40636	American Maize-Products Co. New York, N. Y. Cream of Corn Gluten Feed	Baltimore	23.52	23.00	1.60	1.50	7.20	3.50
	American Milling Co., Peoria, Ill.							
40577	Amco Cotton Seed Meal	Baltimore	43.09	41.00	7.21	7.00	9.70	12.00
40382	Amco Old Process Linseed Meal	Baltimore	32.03	30.00	6.45	5.00	8.02	10.00
40680	Amco Stock Feed	Hagerstown	10.79	10.00	4.57	3.00	12.67	14.00
40398	Cluck-Cluck Scratch Feed	Baltimore	10.71	10.00	1.30	2.00	2.75	5.00
40578	Sucrene Calf Meal	Pikesville	20.09	20.00	5.01	4.00	5.35	3.00
40333	Sucrene Dairy Feed	Laurel	18.78	16.50	5.05	3.50	8.40	10.00
40556	Sucrene Hog Meal	Baltimore	20.71	18.00	4.45	4.00	6.45	10.00
40399	Sucrene Horse Feed with Alfalfa	Baltimore	11.23	10.00	3.02	2.50	12.55	12 00
40579	Sucrene Poultry Mash	Baltimore	19.74	18.00	5.88	3.50	8.15	12.00
40564	Sucrene Scratch Feed	Ellicott City	11.06	10.00	3.41	2.50	1.90	5.00
40370	Tip-Top Chick Feed	Baltimore	11.23	10.00	2.35	2.50	2.45	5.00
	Anderson Bros. Co., York, Pa.							
40503	Pullet Feed	Westminster	12.02	10.00	3.32	4.00	2.15	3.00
40646	Steer Feed	Hampstead	15.27	8.00	7.15	2.00	6.70	10.00

40646	Steer Feed	Hampstead	15.27	8.00	7.15	2.00	6.70	10.00
	Arcady Farms Milling Co., Chicago, Ill.							
40422	Calf Meal	Pocomoke	25.01	25.00	5.15	5.00	4.80	7.00
40383	Dairy Feed	Baltimore	16.32	16.00	4.65	3.50	13.85	14.00
40384	Milk Maker	Baltimore	24.92	20.00	5.70	1.50	11.05	12.00
40459	Milk Ration	Cumberland	21.67	20.00	5.03	4.00	11.90	12.00
40504	Hog Meal and Humus	Westminster	19.74	18.00	4.27	4.50	7.85	7.50
40639	Riverside Scratch Grains	Baltimore	10.09	10.00	3.85	2.00	2.95	5.00
40423	Sunkist Chic Feed	Pocomoke	11.85	9.00	2.05	2.00	2.10	5.00
	Archer Daniels Linseed Co., Buffalo, N. Y.							
40505	Old Process Ground Oil Cake	Westminster	32.47	31.00	7.57	6.00	9.55	10.00
	Ashcraft-Wilkinson Co., Atlanta Ga.							
40565	Paramount Good Cotton Seed Meal	Baltimore	36.59	36.00	7.03	5.50	11.50	14.00
	J. J. Badenoch & Co., Chicago, Ill.							
40460	C-E-R-Lay Poultry Feed	Hagerstown	11.58	9.50	4.01	2.50	3.10	5.00
40647	Daily Egg Chick Feed	Germantown	9.83	9.50	2.87	2.50	1.80	5.00
40648	Daily Egg Pullet Feed	Germantown	9.65	9.50	3.18	2.50	2.45	5.00
40461	Egg-A-Day Dry Mash	Hagerstown	22.11	18.00	4.18	3.00	7.20	11.00
40462	Gloskoat Horse Feed	Hagerstown	13.35	10.00	2.02	2.00	15.85	16.00
	Baltimore Pearl Hominy, Co., Baltimore, Md.							
40316	Spring Garden Dairy Feed	Baltimore	24.57	20.00	6.25	5.00	7.40	11.00
40557	Spring Garden Hog Feed	Baltimore	12.90	10.00	5.50	5.00	4.30	6.00
40371	Spring Garden Hominy Feed	Baltimore	10.97	10.00	5.24	5.00	4.35	6.00
40413	Spring Garden Horse Feed	Baltimore	11.85	12.00	4.50	5.00	10.10	10.00
	Fred. Bauernschmidt, Baltimore, Md.							
40538	Dried Brewers Grains	Baltimore	22.90	25.00	5.28	5.00	17.45	.....
	Baugh & Sons Co., Baltimore, Md.							
40613	Meat Meal, for Poultry	Baltimore	50.30	50.00	19.68	10.00	1.85	1.00
	Bay State Milling Co., Winona, Minnesota							
40424	Bran, Coarse Wheat	Pocomoke	15.01	14.30	4.75	3.70	10.50	14.00
	Berg Co., Philadelphia, Pa.							
40661	3 Medal Poultry Meat	Chestertown	43.35	40.00	14.82	11.00	1.82	3.00
	Blatchford Calf Meal Co., Waukegan, Ill.							
40401	Calf Meal	Baltimore	25.54	24.00	5.05	5.00	6.03	6.75
40402	Fill-the-Basket Egg Mash	Baltimore	20.45	19.00	5.35	4.00	8.15	10.00
40403	Milk Mash	Baltimore	20.88	20.00	5.10	4.00	5.50	7.50
40558	Pig Meal	Baltimore	21.94	18.00	4.93	5.00	5.80	7.00

No.	Name of Manufacturer and Feeding Stuffs.	Place of Sampling.	Protein.		Fat or Either Extract.		Crude Fiber.	
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.
	Black Rock Milling Corp., Black Rock N. Y.							
40322	Pontiac Scratch Feed	Baltimore	11.58	10.00	3.25	1.50	1.40	6.00
	Blamberg Bros., Inc., Baltimore, Md.							
40640	Buttermilk Growing Feed	Baltimore	19.74	17.25	5.53	3.50	7.95	8.50
40430	Cornell Brand Buttermilk Laying Mash	Baltimore	22.64	16.75	4.40	3.50	8.20	8.00
40539	Cornell Brand Hy-Prot. Meat Meal	Baltimore	81.17	80.00	8.05	7.00	.70	2.00
40420	Cornell Brand Scratch Feed	Baltimore	10.02	10.50	1.65	3.50	3.65	4.00
40447	Cornell Brand Scratch Feed	St. Michaels	13.43	10.50	3.40	3.50	3.90	4.00
40540	Cornell Brand Pigeon Feed	Baltimore	15.71	14.00	4.22	2.60	3.40	4.50
40585	Cornell Brand Special Beef Scraps	Baltimore	57.88	55.00	12.52	13.00	2.50	3.00
	F. W. Bolgiano & Co., Washington, D. C.							
40334	Good Luck Scratch Feed	Riverdale	10.44	10.00	3.25	3.00	2.10	4.00
	J. Bolgiano & Sons, Baltimore, Md.							
40506	Buttermilk Laying Mash	Westminster	19.31	19.00	4.75	5.00	6.80	7.00
40523	Chesapeake Scratch Feed	Baltimore	11.50	9.00	3.21	2.00	2.02	5.00
40524	Lord Baltimore Scratch Feed	Baltimore	11.06	9.00	3.27	2.00	2.15	5.00
40525	Square Deal Baby Chick Feed	Baltimore	11.67	11.50	2.45	3.50	1.95	2.50
40623	Square Deal Chick Developing Feed	Baltimore	9.83	9.00	3.29	2.00	2.30	5.00
40624	Square Deal Chick Feed	Baltimore	11.52	11.50	3.11	3.50	2.20	2.50
40526	Square Deal Dairy Feed	Baltimore	17.55	16.00	5.73	4.00	12.95	15.00
40355	Square Deal Dairy Feed, 20%	Baltimore	20.88	20.00	5.30	5.00	10.55	12.00
40356	Square Deal Dairy Feed, 25%	Baltimore	25 36	25.00	6.20	5.50	9 10	11.00
40357	Square Deal Hog Meal	Baltimore	18.02	18.00	5.35	5.00	6.30	10.00
40414	Square Deal Horse Feed	Baltimore	10.18	9.00	3.35	2.00	9.75	12.00
40625	Square Deal Ground Meat & Bone Scraps	Baltimore	50.56	50.00	11.26	11.00	1.80	3.00
40358	Square Deal Meat Scraps	Baltimore	49.84	45.00	9.85	5.00	3.20	3.00
40359	Square Deal Meat Scraps	Baltimore	55.29	55.00	10.70	5.00	.90	3.00
40335	Square Deal Poultry Feed	Berywn	11.76	11.50	3.45	3.87	2.25	2.76

		Ellicott City	11.41	8.00	4.33	2.00	2.15	5.00

40434	Square Deal Scratch Feed	Ellicott City	11.41	8.00	4.33	2.00	2.15	5.00
	F. W. Brode & Co., Memphis. Tenn.							
40507	Jay Brand Cotton Seed Meal	Taneytown	40.28	36.00	9.27	5.00	8.75	14.00
40508	Owl Brand Cotton Seed Meal	Taneytown	42.74	41.00	6.88	6.00	10.05	10.00
	Buckeye Cotton Oil Co., Cincinnati, Ohio							
40586	Good Cotton Seed Meal	Sparks	37.03	36.00	7.16	5.00	11.55	14.00
	L. G. Campbell Milling Co., Minneapolis, Minn.							
40649	Pure Wheat Bran	Westminster	14.65	13.00	5.03	4.00	10.90	12.00
	Capital City Milling & Grain Co., St. Paul, Minn.							
40584	Queen Fine Ground Wheat Mixed Feed	Pocomoke City	17.29	15.70	5.39	4.60	5.75	8.30
	Century Milling Co., Minneapolis. Minn.							
40541	Poland Wht. Stand. Middlings with Gr'd. Screenings	Townson	17.46	14.00	5.18	4.00	7.10	11.00
	Chapin & Co., Chicago, Ill.							
40404	Acorn Dairy Feed	Baltimore	21.24	20.00	4.20	3.00	7.90	10.00
40665	Bicorn Hog Feed	Baltimore	17.90	17.50	4.35	4.00	3.25	6.00
40666	O. V. O. Laying Mash	Baltimore	20.36	18.00	5.83	4.50	5.72	8.00
40317	Unicorn Dairy Rations	Baltimore	24.83	24.00	5.60	4.50	7.10	10.00
	C. S. Christensen Co., Madelia, Minn.							
40628	Wheat Stand. Middlings with Gr'd Screenings	Annapolis	15.01	14.75	4.82	4.00	9.30	8.25
	J. H. Cissel, Silver Spring, Md.							
40463	Dairy Rations	Silver Spring	26.68	25.00	5.56	5.00	11.95	12.00
	Circleville Milling Co., Circleville Ohio							
40681	Corn & Oats Chop	Oakland	10.71	10.00	4.94	4.50	5.10	6.00
	Clover Leaf Milling Co., Buffalo, N. Y.							
40674	Dried Beet Pulp	New Windsor	9.65	8.00	1.30	.50	19.37	20.00
40509	Egg Mash	New Windsor	21.06	18.00	3.53	4.00	10.15	11.00
40437	Master Grain Ration	Woodsboro	25.80	24.00	5.20	5.00	9.15	10.00
40464	Peerless Milk Rations	Cumberland	21.24	20.00	4.83	4.50	11.15	12.00
40675	Stock Feed	New Windsor	12.90	10.00	4.98	3.50	14.40	15.00
	Clyde Milling & Elevator Co., Clyde, Kansas							
40449	Wheat Bran and Screenings	Baltimore	16.50	14 50	4.60	3.50	10.15	10.00
	Columbia Sugar Co., Bay City, Mich.							
40360	Dried Beet Pulp	Baltimore	9.2.	8.00	.80	.50	18.15	20.00
	Commercial Milling Co., Detroit Mich.							
40542	Henkel's Fine White Feed	Baltimore	16.41	13.00	3.63	4.00	6.20	9.00
	G. E. Conkey Co., Cleveland, Ohio							
40405	Buttermilk Laying Mash	Baltimore	15.80	18.00	3.04	4.00	5.50	6.00
40361	Buttermilk Starting Feed	Baltimore	15.27	18.00	3.81	4.00	5.05	5.00

No.	Name of Manufacturer and Feeding Stuffs	Place of Sampling	Protein.		Fat or Ether Extract.		Crude Fiber.	
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.
40682	Growing Grains	Hagerstown	10.62	10.50	4.22	3.00	1.87	3.00
	Corby Co., Washington, D. C.							
40406	Dried Yeast Grains	Baltimore	16.06	16.00	4.90	5.00	18.45	22.00
	Corn Products Refining Co., New York, N. Y.							
40336	Buffalo Corn Gluten Feed	Berwyn	24.39	23.00	3.53	1.00	6.15	8.50
40465	Diamond Hog Meal	Hagerstown	21.50	16.00	8.33	7.00	11.50	13.00
	Corno Mills Co., St. Louis, Mo.							
40667	Chick Feed	Baltimore	10.44	10.00	3.61	3.00	3.30	3.50
	C. E. Davis Packing Co., Fleeton, Va.							
40421	Chesapeake Brand Fish Meal	Baltimore	50.81	50.00	11.15	8.00	1.55	6.00
	S. P. Davis, Little Rock, Ark.							
40668	Beauty Brand Cotton Seed Meal	Baltimore	40.23	36.00	7.72	6.00	9.32	14.00
40650	Steer Boy Brand Cotton Seed Meal	Buck Lodge	45.02	43.00	8.67	6.00	5.67	10.00
	Albert Dickinson Co., Chicago, Ill.							
40559	Rival Hog Feed	Baltimore	14.92	12.50	2.35	3.00	8.55	12.50
	Duluth Superior Milling Co., Duluth Minn.							
40629	Imperial Bran with Ground Screenings	Annapolis	15.09	15.00	5.67	4.50	10.60	10.75
	Eagle Roller Mill Co., New Ulm. Minn.							
40543	Wheat Bran with Ground Screenings	Baltimore	14.57	14.00	4.81	3.40	11.40	12.00
	Early & Daniel Co., Cincinnati, Ohio							
40630	Ce-Re-A-Lia Sweets	Annapolis	18.78	20.00	5.02	4.50	6.90	10.00
40323	Tuxedo Chop	Baltimore	10.27	10.00	3.65	3.00	7.03	12.00
40631	Tuxedo Hog Rations	Annapolis	15.53	14.50	4.70	3.50	6.05	7.00
40669	Tuxedo Scratch Feed	Baltimore	11.23	10.00	3.76	2.50	2.40	5.00
	Eastern Cotton Oil Co., Elizabeth City, N. C.							
40590	Cotton Seed Meal	Baltimore	38.44	41.00	6.28	5.00	13.60	10.00
	B. A. Eckhart Milling Co., Chicago, Ill.							
40627	Wheat Bran with Ground Screenings	Baltimore	15.45	14.00	4.15	4.00	8.95	11.00
	Empire Cotton Oil Co., Atlanta, Ga.							
40372	Gilt Edge Cotton Seed Feed	Baltimore	36.33	36.00	7.15	5.00	12.15	14.00
	John W. Eshelman, Lancaster Pa.							
40425	Calf Meal	Pocomoke	21.85	16.00	4.75	3.00	3.90	2.00

40372	Gilt Edge Cotton Seed Feed	Baltimore	36.33	36.00	7.15	5.00	12.15	14.00

	John W. Eshelman, Lancaster Pa.								
40425	Calf Meal	Pocomoke	21.85	16.00	4.75	3.00	3.90	2.00	
40614	Dairy Feed 15%	Baltimore	17.64	15.00	6.84	4.00	9.20	10.00	
40466	Dairy Feed 20%	Buck Lodge	20.62	20.00	5.59	4.00	11.60	12.00	
40450	Garden Spot Horse Feed	Annapolis	12.37	10.00	3.23	2.50	9.65	14.00	
30329	Hog Meal	Pocomoke	16.15	16.00	5.10	5.00	5.45	4.00	
40407	Laying Mash	Baltimore	21.41	20.00	4.60	5.00	5.70	7.00	
40451	Old Process Oil Meal	Annapolis	29.66	30.00	6.30	5.00	7.02	10.00	
40337	Scratch Feed	Mt. Rainier	11.14	10.00	3.65	3.00	2.20	4.00	
40676	Stock Feed	Taneytown	11.76	10.00	5.32	2.00	11.42	10.00	
40338	24% Dairy Feed	Hyattsville	27.12	24.00	5.82	5 00	8.35	12.00	
	Farm Equipment Co., Baltimore, Md.								
40373	Securo Digester Tankage	Baltimore	65.46	60.00	12.97	11.00	1.95	3.00	
40362	Securo Fish Meal	Baltimore	55.81	55.00	12.85	11.00	.85	1.00	
	Federal Milling Co., Hagerstown, Md.								
40683	Hog Feed	Hancock	16.58	.....	5.51	.....	5.02	.....	
	Fleischman Co. Washington, D. C.								
40684	Dried Malt Grains	Hagerstown	20.09	20.00	7.37	6.50	19.47	17.00	
	Frederick Co., Farmer's Exchange, Frederick, Md.								
40438	Gambrill's A. I. Dairy Ration	Walkersville	25.01	25.00	7.35	6.00	9.10	9.00	
40651	Gambrill's Buttermilk Chick Mash	Sykesville	18.08	16.00	5.60	3.50	3.82	8.00	
40652	Gambrill's Buttermilk Laying Mash	Sykesville	25.62	18.00	5.74	3.50	5.65	8.00	
40452	Gambrill's Dairy Feed	Annapolis	16.76	16.50	4.40	5.00	13.55	12.00	
40467	Hog Feed	Boyds	20.71	18.00	5.59	4.00	6.40	7.00	
40510	Scratch Feed	Sykesville	11.32	10.00	3.19	3.00	1.95	3.00	
40653	Wheat Middlings	Boyds	19.13	.....	5.45	.....	4.52		
	Fuhrmann & Schmidt Brewing Co., Shamokin, Pa.								
40626	Brewer's Dried Grains	Baltimore	33.35	27.16	6.55	5.69	11.50	15.57	
	Gambrill Grain Products Co., Baltimore, Md.								
40339	Alice Ann Dairy Feed	Beltsville	18.69	16.50	5.45	4.00	8.02	14.00	
40340	Alice Ann Horse Feed	Laurel	11.23	10.00	3.20	3.00	11.80	17.00	
40544	Alice Ann Scratch Feed	Baltimore	10.53	9.00	3.20	2.00	2.60	6.00	
40545	A. I. Dairy Ration	Baltimore	26.68	25.00	5.71	6.00	9.35	9.00	
40341	Canton Stock Feed	Muirkirk	13.16	10.00	3.20	2.50	5.60	20.00	
	C. A. Gambrill Manufacturing Co., Baltimore, Md.								
40596	Patapsco Bran from Winter Wheat	Baltimore	15.45	14.50	3.74	4.00	9.55	9.50	
40432	Patapsco Mill Feed	Owings	15.71	15.00	4.30	4.00	8.60	9.50	
40431	Pure Wheat White Middlings	Baltimore	17.72	16.50	5.05	5.00	5.40	3.25	

No.	Name of Manufacturer and Feeding Stuffs.	Place of Sampling.	Protein.		Fat or Ether Extract		Crude Fiber.	
			FOUND.	Guaranteed.	FOUND.	Guaranteed.	FOUND.	Guaranteed.
	Grain Belt Mills Co., St. Joseph Mo.							
40560	Bronco Horse and Mule Feed	Baltimore	8.89	10.00	1.88	1.50	15.60	16.00
40566	Hunter Horse and Mule Feed	Baltimore	10.77	9.00	3.07	2.00	13.20	14.00
40453	Pennant Horse and Mule Feed	Annapolis	12.02	10.00	1.20	1.00	11.60	18.00
	Hafleigh Rendering Co., Philadelphia. Pa.							
40426	Meat and Bone Scrap	Preston	48.62	50.00	10.85	10.00	2.45	2.00
	Hales & Hunter Co., Chicago, Ill.							
40342	College Dairy Feed	Berwyn	24.48	24.00	4.80	4.00	7.50	10.00
40408	Harvest Horse Feed	Baltimore	11.67	10.00	1.80	2.00	10.95	15.00
40567	Morning Glory Scratch Feed	Baltimore	10.27	9.00	2.86	2.00	2.55	7.00
40343	Red Comb Coarse Chick	Berwyn	11.76	10.00	2.80	2.50	2.05	5.00
40468	Red Comb Egg Mash	Silver Spring	19.30	15.00	4.14	4.00	6.95	9.00
40644	Red Comb Fine Chick	Berwyn	10.88	10.00	2.22	2.50	2.10	5.00
40385	Red Comb Mash Feed	Baltimore	17.29	16.00	4.55	4.00	6.70	9.00
40345	Red Comb Scratch Feed	Berwyn	11.58	10.00	3.35	2.50	1.60	5.00
	W. D. Hall Co., Atlanta, Ga.							
40685	Cotton Seed Meal	Hagerstown	43.09	43.00	7.77	6.00	5.82	10.00
	Dwight E. Hamlin, Pittsburg, Pa.							
40409	H. &. S. Dairy Feed	Baltimore	22.96	23.00	5.65	5.00	10.57	12.00
40469	Quality Feed	Cumberland	9.63	9.00	1.52	1.50	11.60	14.00
	Hayes, Grain & Commission Co., Little Rock. Ark.							
40470	Arkansaw Brand Cotton Seed Meal	Oakland	36.68	36.00	6.34	5.00	13.35	14.00
	Hirst & Bigley, Chicago, Ill.							
40654	Old Process Linseed Cake Meal	Silver Spring	36.59	34.00	6.67	6.00	7.85	9.00
	H-OCereal Co., Buffalo N. Y.							
40314	Algrane Milk Feed	Smithsburg	17.55	14.00	4.85	4.00	8.17	12.00
40686	Medium Scratch	Smithsburg	11.14	11.00	3.78	3.50	2.02	6.50
40315	New England Stock Feed	Smithsburg	11.85	9.50	4.85	4.00	5.35	9.75
40471	Steam Cooked Chick Feed	Middletown	13.86	12.00	3.18	3.00	1.75	6.00

40686	Medium Scratch	Smithsburg	11.85	9.50	4.85	4.00	5.35	9.75
40315	New England Stock Feed	Smithsburg	11.85	12.00	3.18	3.00	1.75	6.00
40471	Steam Cooked Chick Feed	Middletown	13.86					

	W. S. Hoge & Bro., Washington, D. C.							
40346	Best Dairy Feed	Berwyn	23.78	25.00	4.60	5.00	6.55	10.00
40353	Columbia Dairy Feed	Glendale	20.62	20.00	6.02	5.00	7.70	15.00
40662	Milk Maker Dairy Ration	Chestertown	22.82	16.50	5.75	3.50	7.90	10.00
40347	Monogram Horse Feed	Beltsville	8.25	7.00	2.52	2.00	9 10	14.00
40472	Pure-O Dairy Feed	Silver Spring	20.97	20.00	5.53	5.00	8.90	9.00
	Hubbard Milling Co., Mankato, Minn.							
40580	Fancy Pure Wheat Bran	Baltimore	15.71	14.30	5.25	3.20	10.35	19.00
	J. C. Hubinger Bros., Co., Keekuk, Iowa							
40687	K. K. K. Corn Gluten Feed	Hagerstown	24.39	23 00	5.92	2.40	7.70	7.50
	Humphrey's Godwin Co., Memphis, Tenn.							
40589	Bull Brand Cotton Seed Meal	Ellicott City	44.67	43.00	7.22	5.00	9.70	10.00
40439	Cotton Seed Meal	Woodsboro	44.14	43.00	7.50		7.70	
40441	Danish Cotton Seed Meal	Westminster	39.84	36.00	7.14	5.00	12.85	15.00
40473	Dixie Cotton Seed Meal	Boyds	39.84	41.00	6.95	5.50	10.50	10.00
	Industrial Cotton Oil Properties, Waco, Tex.							
40546	Longhorn Brand Prime Cotton Seed Meal	Baltimore	43.88	43.00	7.68	6.00	10.60	12.00
	International Glue Co., Boston, Mass.							
40605	Red Star Brand Fish Scrap	Beltsville	46.50	45.00	2.02	2.00	2.30	1.00
40547	Red Star Brand Fish Scrap	Baltimore	47.03	45.00	2.46	2.00	1.20	1.00
	International Milling Co., New Prague, Minn.							
40548	Blackhawk Wh't Standard Middlings	Towson	14.65	14.00	3.35	3.60	3.90	9 50
	International Sugar Feed Co., Minneapolis, Minn.							
40374	Climax Dairy Feed	Baltimore	12.81	12.50	5.65	4.00	10.95	15.00
40454	Climax Horse Feed	Annapolis	10.02	10.00	2.05	2.00	13.20	17.00
40455	Dan Patch Horse Feed Special	Annapolis	9.65	9.00	2.01	3.00	12.02	12.50
40655	Diamond Dairy Feed	Derwood	24.04	24.00	6.68	5.00	9.95	10.00
40632	Horse Feed	Annapolis	9.65	9.50	3.20	3.50	8.65	9.00
40456	Special Dairy Feed	Annapolis	15.88	15.00	5.04	4.50	13.01	12.00
	International Sugar Feed No. 2 Co., Memphis, Tenn.							
40474	Make Meat Hog Feed	Middletown	19.57	15.00	6.35	5.00	12.85	12.50
40475	Milk Made Dairy Feed	Dickerson	25.27	24.00	6.18	5.00	9.05	15.00
	Ismert Hinkle Milling Co., Kansas City, Mo.							
40641	Wheat Bran with mill Gr'd Screenings	Baltimore	15.45	14.50	4.65	3.50	9.45	11.00
	R. D. Johnson Milling Co., Cumberland, Md.							
40476	Corn, Oats & Barley Chop	Cumberland	11.41	9.51	3.84	4.15	5.55	10.00
40697	Wheat Bran	Cumberland	17.46	.....	5.70	.....	9.72	.....
40698	Wheat Middlings	Cumberland	17.29	.....	3.92	.....	2.50	.....

No.	Name of Manufacturer and Feeding Stuffs.	Place of Sampling.	Protein.		Fat or Ether Extract.		Crude Fiber.	
			Found.	Guaranteed.	Found.	Guaranteed.	Found.	Guaranteed.
	Chas. A. Krause Milling Co., Milwaukee, Wis.							
40511	Badger Blue Top Horse Feed	Smithsburg	10.53	10.00	1.51	1.50	13.20	16.00
40568	Badger Evergreen Feed	Baltimore	11.09	11.00	1.43	.50	18.10	30.00
40561	Badger Hominy Feed	Baltimore	12.48	10.00	5.43	6.00	5.45	5.00
40416	Badger Laying Mash	Baltimore	18.87	18.00	3.25	3.50	9.45	10.00
40616	Badger Cream City Dairy Feed	Baltimore	20.97	20.00	5.23	4.00	14.10	15.00
40415	Badger Dairy Feed	Baltimore	18.16	16.50	5.50	3.50	11.60	15.00
40410	Badger Hog Feed	Baltimore	16.94	15.00	4.85	5.00	7.01	7.50
40569	Badger Pep Horse Feed	Baltimore	11.90	10.00	3.95	3.00	9.98	10.00
40318	Badger Pul-Mor Horse Feed	Baltimore	9.34	9.00	2.45	1.00	10.40	16.00
40688	Badger Sweet Cud	Chewsville	24.04	24.00	4.03	3.75	11.92	15.00
40375	Cream City Horse Feed	Baltimore	11.50	10.00	3.10	1.50	13.35	14.00
40418	Developing Feed	Baltimore	10.09	9.00	1.70	2.50	2.10	5.00
40635	Horse Feed	Baltimore	11.06	10.00	2.97	2.50	12.45	10.00
40417	Scratch Feed	Baltimore	9.83	9.00	1.85	2.50	1.90	5.00
	La Grange Mills, Red Wing, Minn.							
40617	Fancy Coarse Wheat Bran	Baltimore	11.67	14.00	2.81	2.80	2.75	14.80
	Ladish Milling Co., Milwaukee, Wis.							
40670	Corn Feed Meal	Baltimore	10.71	8.00	5.14	3.00	2.82	4.00
40671	Linseed Oil Meal	Rocky Ridge	30.19	31.00	6.57	5.00	9.55	10.00
40392	Record Maker Scratch Feed	Baltimore	10.02	9.50	2.75	2.50	2.80	5.50
40672	Red Dog	Rocky Ridge	17.02	15.00	4.33	3.50	3.07	6.00
40393	True Value Hominy Feed	Baltimore	11.23	10.50	5.02	5.00	2.60	5.00
	Lancaster Mill & Elevator Co., Lancaster, Pa.							
40330	Dairy Feed	Pocomoke	21.50	20.00	5.01	4.00	10.35	14.00
40331	Horse Feed	Pocomoke	10.53	10.00	2.97	2.50	7.05	14.00
40570	Laying Mash	Baltimore	21.32	20.00	5.43	5.00	5.30	7.00
40642	Liberty Horse Feed	Baltimore	7.90	7.00	2.38	2.00	6.65	10.00
43342	Red Rose Dairy Feed	Pocomoke	25.45	25.00	5.55	5.00	6.80	12.00

43342	Red Rose Dairy Feed	Pocomoke	25.45	25.00	5.55	5.00	6.80	12.00

40549	Scratch Feed	Govans	10.97	10.00	2.60	3.00	2.20	4.00
	Lake Erie Milling Co., Toledo, Ohio.							
40663	Molletts Flaked Oats & Corn Chop	Baltimore	10.71	10.00	4.36	4.00	6.77	9.00
40477	Molletts Yellow C-O-B Chop	Oakland	12.11	8.00	3.01	3.00	5.55	6.00
	Larabee Flour Mills Corp., Kansas City, Mo.							
40435	Wheat Bran with M. R. Screenings	Ellicott City	15.09	15.00	4.39	3.50	8.05	10.00
	Larrowe Milling Co., Detroit Mich.							
40412	Dried Beet Pulp	Baltimore	9.30	8.00	1.65	.50	18.05	20.00
40348	Dried Beet Pulp & Molasses	Bladensburg	9.56	9.00	.98	.50	17.40	18.00
40478	Hog Feed	Cumberland	20.36	18.00	7.13	5.00	8.10	10.00
40376	Larro Feed for dairy cows	Baltimore	22.55	20.00	4.80	3.00	9.20	14.00
	L. B. Lovitt & Co., Memphis, Tenn.							
40656	Memphis Brand Cotton Seed Meal	Barnesville	39.49	38.50	6.67	5.50	11.97	12.00
40479	Neals Choice Cotton Seed Meal	Gaithersburg	43.61	43.00	7.97	6.00	10.20	10.00
40512	Thirty-Six Brand Cotton Seed Meal	Taneytown	37.91	36.00	6.30	5.00	12 35	14.00
	McMillen Co., Fort Wayne, Ind.							
40513	Maco Dairy Feed	Maple Grove	17.38	16.00	4.53	3.80	12.65	14.50
40514	Macks Hog Feed	Maple Grove	18.34	16.00	4.88	3.00	8.70	10.00
40515	Wayne Dairy Feed	Maple Grove	26.76	21.00	3.64	3.40	9.70	12.00
40516	Wayne Horse Feed	Maple Grove	12.06	9.00	2.63	2.00	11.70	16.00
40517	Wayne Scratch Feed	Maple Grove	13.51	10.00	3.39	3.00	1.85	4.00
	Mann Bros. Co., Buffalo, N. Y.							
40364	Pure Old Process Linseed Oil Meal	Baltimore	33.61	33.00	7.02	6.00	7.65	10.00
	Martin Fertilizer Co., Baltimore Md.							
40319	Hog Food Tankage	Baltimore	53.18	50.00	7.40	6.00	.95	4.00
40377	Special Poultry Food	Baltimore	51.67	50.00	16.30	10.00	.80	4.00
	Mayflower Mills, Fort Wayne, Ind.							
40633	Middlings	Baltimore	17.29	14.00	4.55	4.00	8.10	10.00
	Mennel Milling Co., Toledo, Ohio							
40637	Fancy Bran Spring Wheat Feed	Baltimore	18.34	15.00	5.25	4.00	9.70	9.50
	Midland Flour Milling Co., Kansas City, Mo.							
40587	Wheat Bran and Screenings	Sparks	17.02	14.50	4.35	3.50	9.55	11.00
	Midand Linseed Product Co., Minneapolis, Minn.							
40518	Linseed Cake	Alesia	31.77	30.00	7.67	8.00	9.05	9.50
	C. L. Montgomery & Co., Memphis, Tenn.							
40588	Star Brand Cotton Seed Meal	Baltimore	38.44	36.00	6.67	6.00	10.20	14.00
	Edgar-Morgan Co., Memphis Tenn.							
40480	Happy Hog Feed	Middletown	23.34	18.00	6.39	5.00	10.55	15.00

No.	Name of Manufacturer and Feeding Stuffs.	Place of Sampling.	Protein.		Fat or Ether Extract		Crude Fiber.	
			FOUND.	Guaranteed.	FOUND.	Guaranteed.	FOUND.	Guaranteed.
	National Milling Co., Minneapolis, Minn.							
40527	Standard Middlings	Baltimore	17.55	15.60	5.37	4.40	7.30	10.80
	Newsome Feed & Grain Co., Pittsburg, Penna.							
40320	Palmo Midds	Baltimore	16.41	16.00	8.04	7.00	7.02	9.00
	Ninety Six Oil Mill, Ninety Six, S. C.							
40354	Star Fort Cotton Seed Feed	Glendale	38.87	36.00	7.40	6.00	11.25	12.00
	Northwestern Consolidated Milling Co., Minneapolis Minn							
40493	Pure Wheat Bran	Parkton	15.53	14.50	5.04	4.00	10.25	11.00
40572	XXX Comet Feed	Baltimore	19.48	16.00	5.75	4.00	2.90	4.00
40571	Wheat Standard Middlings	Baltimore	16.23	14.00	6.90	4.00	9.55	11.00
	W. C. Northern, Memphis, Tenn.							
40481	Cotton Seed Meal & Cake	Cumberland	42.47	41.00	10.40	6.00	9.95	10.00
	G. Ober & Sons Co., Baltimore, Md.							
40664	Royal Crown Beef Meat	Baltimore	68.10	50.00	11.43	12.00	2.32	1.00
	P. F. Obrecht & Son, Baltimore, Md.							
40599	Dairy Rations	Baltimore	23.08	20.00	4.16	3.00	10.45	15.00
	Omaha Alfalfa Milling Co., Omaha, Neb.							
40591	Horse Feed	Baltimore	11.41	10.00	2.28	2.00	14.15	15.00
40643	Green Meadow Dairy Feed	Baltimore	11.23	11.00	1.07	1.00	14.24	25.00
40573	Special Horse Feed	Baltimore	11.26	10.00	2.26	2.00	14.70	12.00
	Park & Pollard Co., Boston Mass.							
40378	Go-tu-it Hog Rations	Baltimore	18.08	15.00	6.41	6.00	10.05	13.00
40325	Growing Feed	Baltimore	15.36	10.00	4.07	1.50	2.20	8.00
40326	Lay-or-Bust Poultry Food	Baltimore	18.60	18.00	4.30	1.50	6.35	12.00
40482	Pontiac Scratch Feed	Hagerstown	11.50	10.00	3.46	11.00	1.95	5.00
40483	Stevens Forty-Four Dairy Rations	Hagerstown	24.66	24.00	5.71	5.00	11.70	14.00
	M. C. Peters Mill Co., Omaha, Neb.							
40498	Arab Horse Feed	Cumberland	10.18	10.00	2.61	2.00	11.25	15.00
40387	Bargen Feed Poultry Scratch	Baltimore	10.53	10.00	1.40	2.00	2.40	6.00

40387	Bargen Feed Poultry Scratch	Baltimore	10.53	10.00	1.40	2.00	2.40	6.00
40550	King Corn Horse & Mule Feed	Baltimore	10.10	10.00	1.58	1.50	15.02	18.00
40551	Rabbitt Mule Feed	Baltimore	10.60	10.00	1.71	1.50	17.60	18.00
40484	Re-Peter Horse Feed	Cumberland	11.42	10.00	2.04	1.00	13.50	18.00
	Pillsbury Flour Mills Co., Minneapolis, Minn.							
40457	Standard Wheat Middlings	Annapolis	17.81	14.00	5.05	4.00	3.70	11.00
40574	XX Daisy Feed	Baltimore	18.34	16.00	4 28	4.00	1.80	4.00
40644	Wheat Bran with Ground Screenings	Baltimore	13.95	13.00	5.35	4.00	11.12	13.00
	Pilot Point Cotton Oil Mill Co., Pilot Point, Tex.							
40419	Ordinary Cotton Seed Meal	Baltimore	43.61	43.00	7.40	6.00	10.30	12.00
	Charles Pope, Chicago, Ill.							
40622	Dried Beet Pulp	Baltimore	8.95	8.00	.89	.50	17.95	20.00
	Prairie State Milling Co., Chicago, Ill.							
40529	Greenfield Brand Feed	Baltimore	11.16	9.00	1.14	.50	18.50	18.00
	Pratt Food Co., Philadelphia, Pa.							
40388	Buttermilk Growing Mash	Baltimore	24.04	20.00	3.60	3.00	4.90	10.00
40389	Milk Egg Mash	Baltimore	20.53	20.00	3.25	3.00	7.05	10.00
	Purity Oats Co., Keokuk, Iowa							
40677	Oat Feed	Taneytown	6.41	5.00	2.48	1.50	28.30	30.00
	Quaker Oats Co., Chicago, Ill.							
40618	Big Egg Scratch Feed	Baltimore	10.03	10.00	1.97	2.50	1.80	5.00
40485	Big Q Dairy Rations	Middletown	23.60	21.00	5.29	5.00	10.90	11.00
40499	Blue Ribbon Dairy Feed	Fruitland	23.87	21.00	3.43	5.00	9.80	11.00
40494	Buckeye Wheat Mixed Feed	Fruitland	16.50	15.00	5.03	4.00	8.15	11.00
40519	Dairy Feed	Hampstead	18.16	16.00	4.88	4.50	13.85	16.00
40530	Ful-O-Pep Chick Feed	Baltimore	16.15	14.00	4.12	3 50	1.30	3.00
40442	Ful-O-Pep Dry Mash	Gaithersburg	21.41	20.00	4.56	4.00	6.80	10.00
40657	Ful-O-Pep Growing Mash	Woodbine	22.20	17.00	5.79	5.25	6.30	9.00
40552	Ful-O-Pep Scratch Grains	Baltimore	10.18	10.00	2.07	2.50	2.20	5.00
40531	Green Cross Horse Mixed Feed	Baltimore	11 36	10.00	2.55	2.50	14.10	13.50
40496	Schumacker Feed	Fruitland	12.46	10.00	3.58	3.25	8.65	11.00
40436	Schumacker Feed Kiln Dried Rations	Ellicott City	11.67	10.00	3.36	3.25	8.70	11.00
40440	Schumacher Little Chick Feed	Woodsboro	11.76	10.00	3.01	2.50	1.90	5.00
40495	Schumacher Scratch Grains	Fruitland	10.88	10.00	2.59	2.50	2.05	5.00
	Ralston Purina Co., St. Louis, Mo.							
40365	Calf Chow Feed	Baltimore	26.68	27.00	4.44	4.50	3.30	4.50
40366	Cow Chow Feed 24%	Baltimore	23.43	24.00	4.61	4.30	8.75	12.00
40522	Pig Chow Feed	Baltimore	17.59	15.00	2.98	2.50	5.40	9.00
40621	Protena Dairy Feed	Baltimore	20.62	16.50	4.13	1.50	9.75	12.00

No.	Name of Manufacturer and Feeding Stuffs	Place of Sampling	Protein		Fat or Ether Extract		Crude Fiber	
			FOUND.	Guaranteed	FOUND.	Guaranteed.	FOUND.	Guaranteed.
40620	Purina Chick Feed	Baltimore	14.65	10.00	5.10	2.50	11.01	5.00
40390	Purina Feed with molasses	Baltimore	9.92	9.30	2.40	1.70	13.80	13.00
40619	Purina Chicken Chowder	Baltimore	20.36	19.00	4.35	4.00	9.02	10.00
40367	Purina Chicken Chowder	Baltimore	18.95	19.00	4.74	4.00	8.10	10.00
40486	Purina Hen Chow	Hagerstown	11.85	10.00	3.43	2.50	2.05	4.00
40532	Purina O-Molene Feed	Baltimore	11.12	9.70	3.07	3.20	9.75	8.00
40634	Purina Pig Chow with charcoal 2%	Annapolis	17.55	15.00	6.05	2.50	5.80	9.00
40487	Purina Pigeon Feed	Hagerstown	16.15	11.00	2.17	2.50	2.10	4.00
40368	Purina Scratch Feed	Baltimore	10.97	10.00	3.58	2.50	2.55	4.00
	Red Wing Milling Co., Red Wing, Minn.							
40612	Bixota Wheat Flour Middlings	Baltimore	18.78	17.30	5.45	4.50	5.60	8.00
	Reindollar Bros. & Co., Taneytown, Md.							
40678	Rein-o-la Poultry Feed	Taneytown	12.20	12.00	3.70	3.00	4.67	4.00
	Robinson Milling Co., Salina, Kansas							
40611	Wheat Bran & Screenings	Baltimore	17.38	14.50	4.31	3.50	9.20	11.00
	Rosenbaum Bros. & Co., Chicago, Ill.							
40500	Vitality Chick Mash	Fruitland	15.18	18.00	4.33	4.00	3.95	6.00
40501	Vitality Egg Mash	Fruitland	19.39	18.00	4.73	4.00	7.45	10.00
40497	Vitality Horse Feed	Fruitland	15.09	10.00	2.76	3.00	12.05	15.00
	Ryde & Co., Chicago Ill.							
40689	Cream Calf Meal	Baltimore	24.66	25.00	4.90	5.00	6.20	6.00
40391	Egg Mash	Chewsville	22.29	20.00	5.32	4.00	11.20	9.00
	J. M. Sansom & Co., Dallas, Texas							
40673	Cotton Seed Meal	Rocky Ridge	45.81	41.20	6.46	5.20	5.12	14.00
	Wm. G. Scarlett & Co., Baltimore, Md.							
40607	Hog Food Tankage	Beltsville	60.02	60.00	6.94	10.00	2.20	4.00
40554	Oriole Brand AA Pigeon Feed	Baltimore	14.30	13.00	3.98	3.50	3.05	4.00
40553	Oriole Brand H. G. Dry Mash	Baltimore	22.64	20.00	4.85	4.00	10.85	9.00
40448	Oriole Brand H. G. Scratch Feed	Baltimore	11.58	10.50	5.65	3.50	4.65	4.00
40380	Oriole Brand Meat Scraps	Baltimore	51.42	50.00	10.51	5.00	1.05	3.00

	C. S. Schermerhorn & Son, Baltimore, Md.							
40594	Cotton Seed Meal	Baltimore	34.40	36.00	5.48	5.00	15.30	12.00
	Sheffield-King Milling Co., Minneapolis, Minn.							
40433	White Hope	Camp Springs	17.55	16.00	4.95	4.00	5.75	7.65
	W. A. Simpson & Co., Baltimore, Md.							
40658	Poultry Meat & Bone	Dickerson	43.26	40.00	13.53	11.00	1.65	3.00
	Smith Milling Co., Milwaukee, Wis.							
40520	Vitex Dairy Feed	Chewsville	27.20	24.00	5.63	6.00	11.55	11.00
	Spencer Kellogg & Sons, Inc. Buffalo, N. Y.							
40321	Pure Old Process Oil Meal	Baltimore	29.66	31.00	6.10	5.00	7.65	10.00
	Standard Cereal Co., Chillicothe, Ohio							
40533	Logan Hominy Feed	Baltimore	11.50	10.00	4.12	7.00	2.45	6.00
	Wm. H. Stellman, Baltimore, Md.							
40555	Brewer's Dried Grains	Baltimore	24.48	27.00	5.64	6.50	13.35	13.00
	D. A. Stickell & Sons, Hagerstown, Md.							
40691	Blue Ridge Dairy Ration	Hagerstown	22.20	21.00	5.88	5.50	11.65	13.00
40692	Buttermilk Hog Ration	Hagerstown	17.02	15.00	5.79	4.00	4.10	6.00
40693	Egg Mash with Oatmeal and Buttermilk	Hagerstown	21.50	20.00	5.71	4.00	7.82	10.00
40694	Growing Mash with Oatmeal & Buttermilk	Hagerstown	17.20	15.50	5.86	4.50	6.90	8.00
40695	Little Pig Rations	Hagerstown	16.94	15.00	5.45	4.50	4.92	6.00
40696	Milk Rations	Hagerstown	26.06	25. 0	6.75	4.50	8.65	10.00
	Suffolk Oil Mill, Suffolk, Va.							
40609	Primo Unhulled Peanut Oil Feed	Beltsville	23.96	28.00	5.46	6.00	39.90	25.00
	Sugarine Co.. Peoria, Ill.							
40381	Universal Scratch Feed	Baltimore	11.50	10.00	2.52	2.50	3.60	5.00
	Swift & Co., Chicago, Ill.							
40521	Digester Tankage	Woodbine	60.90	60.00	9.23	8.00	.95	3.00
40597	Gromeal	Baltimore	50.54	50.00	13.37	3.00	1.20	5.00
	Swift & Co., Oil Mill, Augusta, Ga.							
40395	Cotton Seed Meal	Baltimore	39.40	36.00	7.30	5.00	11.25	12.00
	Taylor Commission Co., Atlanta, Ga.							
40327	Good Cotton Seed Meal	Baltimore	36.02	36.00	5.90	5.50	12.25	14.00
	Thomas & Co., Frederick, Md.							
40443	Dairy Feed	Barnesville	20.53	16.50	2.56	3.50	15.65	14.00
	Toledo Seed & Oil Co., Toledo, Ohio							
40690	Old Process Oil Meal	Oakland	30.71	31.00	6.20	6.00	9.60	10.00
	Ubiko Milling Co., Cincinnati, Ohio							
40488	Biles Ready Dairy Ration	Washington Grove	25.89	24.00	6.60	5.00	8.35	10.00

No.	Name of Manufacture and Feeding Stuffs.	Place of Sampling	Protein		Fat or Ether Extract		Crude Fiber	
			FOUND.	Guaranteed.	FOUND.	Guaranteed.	FOUND.	Guaranteed.
	Union Seed & Fertilizer Co., New York, N. Y.							
40491	American Red Tag Cotton Seed Meal	Hagerstown	40.45	38.62	7.13	6.00	9.20	11.50
40583	Security Brand Cotton Seed Meal	Middleburg	38.87	36.00	7.06	5.50	11.95	14.00
	U. S. Food Products Corp., Peoria, Ill.							
40445	Mel-O-Dairy Ration	Gaithersburg	20.80	20.00	5.02	5.00	9.50	9.00
40489	Success Horse Feed	Silver Spring	11.51	10.00	2.34	2.00	12.10	15.00
40490	Farmer Jones Brand Horse Feed	Silver Spring	10.51	9.00	2.07	2.50	12.95	10.00
	U. S. Guano Co., Baltimore, Md.							
40595	Standard Pure Hog Feed	Baltimore	60.54	60.00	11.72	17.25	2.45	1.72
	Van Iderstine Co., Long Island City, N. Y.							
40396	Meat Scraps for Poultry	Baltimore	46.95	45.00	10.05	6.00	1.05	3.00
40397	Meat Scraps High-Prot. for Poultry	Baltimore	58.10	55.00	10.10	5.00	.90	3.00
40328	Meat Scraps High-Prot. for Poultry	Baltimore	56.43	55.00	10.10	5.00	.90	3.00
	Virginia Feed & Milling Corp., Alexandria, Va.							
40581	Crown Poultry Feed, Trivoli Brand	Baltimore	11.58	10.00	4.16	3.00	2.95	5.00
40534	Fairfax Horse & Mule Feed	Baltimore	10.95	10.00	2.60	3.00	13.70	20.00
40350	Home Mixture Horse Feed	Laurel	9.65	10.00	3.30	2.00	7.50	15.00
	Washburn-Crosby Co., Minneapolis, Minn.							
40535	Arlington Flour for Hog Feed	Baltimore	18.60	14.00	3.02	4.00	.55	4.00
40575	Durum Wheat Standard Middlings	Baltimore	20.27	14.00	6.15	4.00	6.90	12.00
40563	Pure Hard Adrian Red Dog Feed	Baltimore	18.25	16.00	4.68	4.00	3.70	4.00
40428	Wheat Bran	Conowingo	15.62	13.00	4.95	4.00	11.15	13.00
40429	Wheat Standard Middlings	Conowingo	17.46	14.00	5.05	4.00	8.10	11.00
	Richard H. Wattles, Alexandria, Va.							
40351	Green Top Horse Feed	Bladensburg	10.44	10.00	2.50	2.00	11.05	15.00
	A. C. Weslerbelt & Co., Memphis Tenn.							
40659	Sun Brand Cotton Seed Meal	Woodbine	35.19	36.00	5.64	5.00	12.55	15.00
	Western Grain Products Co., Hammond, Ind.							
40660	Calumet Hog Feed	Westminster	20.62	18.50	5.01	5.00	9.15	11.00
40446	Hammond Dairy Feed	Gaithersburg	17.90	16.50	4.40	3.50	11.50	14.20
	Wheeling Steel & Iron Co., Yorkville, Ohio.							
40492	Refuse Cleaning Mixture	Cumberland	16.67	16.50	6.33	7.50	6.80	8.50
	Wisconsin Milling Co., Menomonie, Wis.							
40576	White Middlings with Ground Screenings	Baltimore	16.41	15.33	5.04	5.56	7.35	9.03

DEFINITIONS OF FEEDING STUFFS

ADOPTED BY THE ASSOCIATION OF FEED CONTROL OFFICIALS.

Meal is the clean, sound, ground product of the entire grain, cereal or seed which it purports to represent.

Chop is a ground or chopped feed composed of one or more different cereals or by-products thereof. If it bears a name descriptive of the kind of cereals, it must be made exclusively of the entire grains of those cereals.

Alfalfa meal is the entire alfalfa hay ground, and does not contain an admixture of ground alfalfa straw or other foreign materials.

ANIMAL PRODUCTS

Blood meal is ground dried blood.

Cracklings are the residue after partially extracting the fats and oils from the animal tissues. If they bear a name descriptive of their kind, composition or origin, they must correspond thereto.

Digester Tankage is the residue from animal tissues, exclusive of hoof and horn, specially prepared for feeding purposes by tanking under live steam, drying under high heat, and suitable grinding. If it contains more than 10 per cent. of phosphoric acid (P_2O_5) it must be designated **Digester Meat and Bone Tankage.**

Meat Scrap and Meat Meal are the ground residues from animal tissues exclusive of hoof and horn. If they contain more than 10 per cent. of phosphoric acid (P_2O_5) they must be designated **Meat and Bone Scrap and Meat and Bone Meal.** If they bear a name descriptive of their kind, composition or origin, they must correspond thereto.

BARLEY PRODUCTS

Barley Hulls are the outer chaff coverings of the barley grain.

Barley Feed is the entire by-product resulting from the manufacture of pearl barley from clean barley.

Barley Mixed Feed is the entire offal from the milling of barley flour from clean barley and is composed of barley hulls and barley middlings.

BREWERS' AND DISTILLERS' PRODUCTS

Brewers' Dried Grains are the properly dried residue from cereals obtained in the manufacture of beer.

Distillers' Dried Grains are the dried residue from cereals obtained in the manufacture of alcohol and distilled liquors. The product shall bear the designation indicating the cereal predominating.

Distillers' Corn Solubles, a by-product from the manufacture of alcohol from corn, is a mash liquor concentrated after the removal of the alcohol and wet grains.

Distillers' Corn and Rye Solubles, a by-product from the manufacture of alcohol from corn and rye, is a mash liquor concentrated after the removal of the alcohol and wet grains.

Distillers' Rye Solubles, a by-product from the manufacture of alcohol from rye, is a mash liquor concentrated after the removal of the alcohol and wet grains.

Malt Sprouts are the sprouts of the barley grain. If the sprouts are derived from any other malted cereal, the source must be designated.

BUCKWHEAT PRODUCTS

Buckwheat Shorts or **Buckwheat Middlings** are that portion of the buckwheat grain immediately inside of the hull after separation from the flour.

CORN PRODUCTS

Corn Bran is the outer coating of the corn kernel.

Corn Feed Meal is the by-product obtained in the manufacture of cracked corn, with or without aspiration products added to the siftings, and is also the by-product obtained in the manufacture of table meal from the whole grain by the non-degerminating process.

Corn Germ Meal is a product in the manufacture of starch, glucose and other corn products, and is the germ layer from which part of the corn oil has been extracted.

Grits are the hard, flinty portions of Indian corn, without hulls and germs.

Corn Gluten Meal is that part of commercial shelled corn that remains after the separation of the larger part of the starch, the germ and the bran, by the processes employed in the manufacture of cornstarch and glucose. It may or may not contain corn solubles.

Corn Gluten Feed is that portion of commercial shelled corn that remains after the separation of the larger part of the starch and the germs by the processes employed in the manufacture of cornstarch and glucose. It may or may not contain corn solubles.

40576 | Wisconsin Milling Co., Menomonie, Wis. White Middlings with Ground Screenings..... Baltimore | 16.41 | 15.33 | 5.04 | 5.56 | 7.35 | 9.03

Hominy Feed, Hominy Meal or **Hominy Chop** is the kiln-dried mixture of the mill-run bran coating, the mill-run germ, with or without a partial extraction of the oil and a part of the starchy portion of the white corn kernel obtained in the manufacture of hominy, hominy grits and corn-meal by the degerminating process.

Yellow Hominy Feed, Yellow Hominy Meal or **Yellow Hominy Chop** is a kiln-dried mixture of the mill-run bran coating, the mill-run germ, with or without a partial extraction of the oil and a part of the starchy portion of the yellow corn kernel obtained in the manufacture of yellow hominy grits and yellow corn-meal by the degerminating process.

OIL CAKE

Oil Cake is the residual cake obtained after extraction of part of the oil by crushing, cooking and hydraulic pressure from seeds screened and cleaned of weed seeds and other foreign materials by the most improved commercial processes. When used alone the term "oil cake" shall be understood to designate the product obtained from partially extracted, screened and cleaned flaxseed. When used to cover any other product, the name of the seed from which it is obtained shall be prefixed to "oil cake."

Ground Oil Cake is the product obtained by grinding oil cake. When used alone, the term "ground oil cake" shall be understood to designate the product obtained from partially extracted, screened and cleaned flaxseed. When used to cover any other product the name of the seed from which it is obtained shall be prefixed to "ground oil cake."

COTTONSEED PRODUCTS

Cottonseed-Meal is a product of the cottonseed only, composed principally of the kernel with such portion of the hull as is necessary in the manufacture of oil; provided that nothing shall be recognized as cottonseed-meal that does not conform to the foregoing definition and that does not contain at least 36 per cent. of protein.

Choice Cottonseed-Meal must be finely ground, not necessaarily bolted, perfectly sound and sweet in odor, yellow, free from excess of lint, and must contain at least 41 per cent. of protein.

Prime Cottonseed-Meal must be finely ground, not necessarily bolted, of sweet odor, reasonably bright in color, yellow, not brown or reddish, free from excess of lint, and must contain at least 38.6 per cent. of protein.

Good Cottonseed-Meal must be finely ground, not necessarily bolted, of sweet odor, reasonably bright in color, and must contain at least 36 per cent. of protein.

Cottonseed Feed is a mixture of cottonseed-meal and cottonseed-hulls, containing less than 36 per cent. of protein.

Cold Pressed Cottonseed is the product resulting from subjecting the whole undecorticated cottonseed to the cold pressure process for the extraction of oil, and includes the entire cottonseed less the oil extracted.

Ground Cold Pressed Cottonseed is the ground product resulting from subjecting the whole undecorticated cottonseed to the cold pressure process for the extraction of oil, and includes the entire ground cottonseed less the oil extracted.

LINSEED AND FLAX PRODUCTS

Linseed Meal is the ground product obtained after extraction of part of the oil from ground flaxseed screened and cleaned of weed seeds and other foreign materials by the most improved commercial processes, provided that the final product shall not contain over six per cent. of weed seeds and other foreign materials and provided further that no portion of the stated six per cent. of weed seeds and other foreign materials shall be deliberately added.

Oil Meal is the ground product obtained after the extraction of part of the oil by crushing, cooking and hydraulic pressure, or by crushing, heating and the use of solvents from seeds which have been screened and cleaned of weed seeds and other foreign materials by the most improved commercial processes. When used alone the term "Oil Meal" shall be understood to designate linseed meal as defined. When used to cover any other product the name of the seed from which it is obtained shall be prefixed to the words "oil meal."

Old Process Oil Meal is the ground product obtained after extraction of part of the oil by crushing, cooking and hydraulic pressure from seeds screened and cleaned of weed seeds and other foreign materials by the most improved commercial processes. When used alone the term "Old Process Oil Meal" shall be understood to designate linseed meal as defined, made by the old process. When used to cover any other product the name of the seed from which it is obtained shall be prefixed to "old process oil meal."

New Process Oil Meal is the ground product obtained after extraction of part of the oil by crushing, heating and the use of solvents from seeds screened and cleaned of weed seeds and other foreign materials by the most improved commercial processes. When used alone the terms "New Process Oil Meal" shall be understood to designate linseed meal as defined, made by the new process. When used to cover any other product the name of the seed from which it is obtained shall be prefixed to "new process oil meal."

Flax Plant By-Product is that portion of the flax plant remaining after the separation of the seed, the bast fiber and a portion of the shives, and consists of flax shives, flax pods, broken and immature flax seeds, and the cortical tissues of the stem.

Ground Flaxseed or **Flaxseed Meal** is the product obtained by grinding flaxseed which has been screened and cleaned of weed seeds and other foreign materials by the most improved commercial processes, provided that the final product shall not contain over four per cent. of weed seeds and other foreign materials, and provided further that no portion of the stated four per cent. of weed seeds and other foreign materials shall be deliberately added.

Unscreened Flaxseed Oil Feed is the ground product obtained after extraction of part of the oil from unscreened flaxseed by crushing, cooking and hydraulic pressure, or by crushing, heating and the use of solvents. When sold without grinding the unground product shall be designated as "unscreened flaxseed oil feed cake."

Ingredients of Unscreened Flaxseed Oil Feed—Ground cake from partially extracted flaxseed and foreign seeds (wheat, wild buckwheat, pigeon grass, wild mustard, etc.).

Screenings Oil Feed is the ground product obtained after extraction of part of the oil by crushing, cooking and hydraulic pressure, or by crushing, heating and the use of solvents from the smaller imperfect grains, weed seeds and other foreign materials, having feeding value, separated in cleaning the grain. The name of the grain from which the screenings are separated shall be prefixed to "screenings oil feed."

OAT PRODUCTS

Oat Groats are the kernels of the oat berry.

Oat Hulls are the outer chaffy coverings of the oat grain.

Oat Middlings are the floury portions of the oat groat obtained in the milling of rolled oats.

Oat Shorts are the covering of the oat grain lying immediately inside the hull, being a fuzzy material carrying with it considerable portions of the fine floury part of the groat obtained in the milling of rolled oats.

Clipped Oat By-Product is the resultant by-product obtained in the manufacture of clipped oats. It may contain light chaffy material broken from the ends of the hulls, empty hulls, light, immature oats and dust. It must not contain an excessive amount of oat hulls.

PEANUT PRODUCTS

Peanut Oil Cake is the residue after the extraction of part of the oil by pressure or solvents from peanut kernels.

Peanut Oil Meal is the ground residue after the extraction of part of the oil from peanut kernels.

Unhulled Peanut Oil Feed is the ground residue obtained after extraction of part of the oil from whole peanuts and the ingredients shall be designated as **Peanut Meal and Hulls.**

RICE PRODUCTS

Rice Bran is the cuticle beneath the hull.

Rice Hulls are the outer chaffy coverings of the rice grain.

Rice Polish is the finely powdered material obtained in polishing the kernel.

RYE PRODUCTS

Rye Middlings or Rye Feed consists of the products other than the flour obtained in the manufacture of the ordinary "100 per cent." rye flour from the rye grain which has been cleaned and scoured.

Rye Red Dog Flour consists of a mixture of low-grade flour, fine particles of bran and the fibrous offal from the "tail of the mill."

VELVET BEAN PRODUCTS

Velvet Bean Meal is ground velvet beans containing an unavoidable trace of hulls or pods.

Ground Velvet Bean and Pod is the product derived by grinding velvet beans "in the pod." It contains no additional pods or other material.

WHEAT PRODUCTS

Wheat Bran is the course outer coating of the wheat kernel as separated from cleaned and scoured wheat in the usual process of commercial milling.

Standard Middlings (Red Shorts or Brown Shorts) consists mostly of the fine particles of bran, germ and very little of the fibrous offal obtained from the "tail of the mill." This product must be obtained in the usual commercial process of milling.

Gray Shorts (Gray Middlings or Total Shorts) consists of the fine particles of the outer bran, the inner or "bee-wing" bran, the germ, and the offal or fibrous material obtained in the usual commercial process of flour milling.

Flour Middlings shall consist of standard middlings and red dog flour combined in the proportions obtained in the usual process of milling.

White Shorts or **White Middlings** consists of a small portion of the fine bran particles and the germ and a large portion of the fibrous offal obtained from the

Hominy Feed, Hominy Meal or **Hominy Chop** is the kiln-dried mixture of the mill-run bran coating, the mill-run germ, with or without a partial extraction of the oil and a part of the starchy portion of the white corn kernel obtained in the manufacture of hominy, hominy grits and corn-meal by the degerminating process.

Yellow Hominy Feed, Yellow Hominy Meal or **Yellow Hominy Chop** is a kiln-dried mixture of the mill-run bran coating, the mill-run germ, with or without a partial extraction of the oil and a part of the starchy portion of the yellow corn kernel obtained in the manufacture of yellow hominy grits and yellow corn-meal by the degerminating process.

OIL CAKE

Oil Cake is the residual cake obtained after extraction of part of the oil by crushing, cooking and hydraulic pressure from seeds screened and cleaned of weed seeds and other foreign materials by the most improved commercial processes. When used alone the term "oil cake" shall be understood to designate the product obtained from partially extracted, screened and cleaned flaxseed. When used to cover any other product, the name of the seed from which it is obtained shall be prefixed to "oil cake."

Ground Oil Cake is the product obtained by grinding oil cake. When used alone, the term "ground oil cake" shall be understood to designate the product obtained from partially extracted, screened and cleaned flaxseed. When used to cover any other product the name of the seed from which it is obtained shall be prefixed to "ground oil cake."

COTTONSEED PRODUCTS

Cottonseed-Meal is a product of the cottonseed only, composed principally of the kernel with such portion of the hull as is necessary in the manufacture of oil; provided that nothing shall be recognized as cottonseed-meal that does not conform to the foregoing definition and that does not contain at least 36 per cent. of protein.

Choice Cottonseed-Meal must be finely ground, not necessaarily bolted, perfectly sound and sweet in odor, yellow, free from excess of lint, and must contain at least 41 per cent. of protein.

Prime Cottonseed-Meal must be finely ground, not necessarily bolted, of sweet odor, reasonably bright in color, yellow, not brown or reddish, free from excess of lint, and must contain at least 38.6 per cent. of protein.

Good Cottonseed-Meal must be finely ground, not necessarily bolted, of sweet odor, reasonably bright in color, and must contain at least 36 per cent. of protein.

Cottonseed Feed is a mixture of cottonseed-meal and cottonseed-hulls, containing less than 36 per cent. of protein.

Cold Pressed Cottonseed is the product resulting from subjecting the whole undecorticated cottonseed to the cold pressure process for the extraction of oil, and includes the entire cottonseed less the oil extracted.

Ground Cold Pressed Cottonseed is the ground product resulting from subjecting the whole undecorticated cottonseed to the cold pressure process for the extraction of oil, and includes the entire ground cottonseed less the oil extracted.

LINSEED AND FLAX PRODUCTS

Linseed Meal is the ground product obtained after extraction of part of the oil from ground flaxseed screened and cleaned of weed seeds and other foreign materials by the most improved commercial processes, provided that the final product shall not contain over six per cent. of weed seeds and other foreign materials and provided further that no portion of the stated six per cent. of weed seeds and other foreign materials shall be deliberately added.

Oil Meal is the ground product obtained after the extraction of part of the oil by crushing, cooking and hydraulic pressure, or by crushing, heating and the use of solvents from seeds which have been screened and cleaned of weed seeds and other foreign materials by the most improved commercial processes. When used alone the term "Oil Meal" shall be understood to designate linseed meal as defined. When used to cover any other product the name of the seed from which it is obtained shall be prefixed to the words "oil meal."

Old Process Oil Meal is the ground product obtained after extraction of part of the oil by crushing, cooking and hydraulic pressure from seeds screened and cleaned of weed seeds and other foreign materials by the most improved commercial processes. When used alone the term "Old Process Oil Meal" shall be understood to designate linseed meal as defined, made by the old process. When used to cover any other product the name of the seed from which it is obtained shall be prefixed to "old process oil meal."

New Process Oil Meal is the ground product obtained after extraction of part of the oil by crushing, heating and the use of solvents from seeds screened and cleaned of weed seeds and other foreign materials by the most improved commercial processes. When used alone the terms "New Process Oil Meal" shall be understood to designate linseed meal as defined, made by the new process. When used to cover any other product the name of the seed from which it is obtained shall be prefixed to "new process oil meal."

Flax Plant By-Product is that portion of the flax plant remaining after the separation of the seed, the bast fiber and a portion of the shives, and consists of flax shives, flax pods, broken and immature flax seeds, and the cortical tissues of the stem.

Ground Flaxseed or **Flaxseed Meal** is the product obtained by grinding flaxseed which has been screened and cleaned of weed seeds and other foreign materials by the most improved commercial processes, provided that the final product shall not contain over four per cent. of weed seeds and other foreign materials, and provided further that no portion of the stated four per cent. of weed seeds and other foreign materials shall be deliberately added.

Unscreened Flaxseed Oil Feed is the ground product obtained after extraction of part of the oil from unscreened flaxseed by crushing, cooking and hydraulic pressure, or by crushing, heating and the use of solvents. When sold without grinding the unground product shall be designated as "unscreened flaxseed oil feed cake."

Ingredients of Unscreened Flaxseed Oil Feed—Ground cake from partially extracted flaxseed and foreign seeds (wheat, wild buckwheat, pigeon grass, wild mustard, etc.).

Screenings Oil Feed is the ground product obtained after extraction of part of the oil by crushing, cooking and hydraulic pressure, or by crushing, heating and the use of solvents from the smaller imperfect grains, weed seeds and other foreign materials, having feeding value, separated in cleaning the grain. The name of the grain from which the screenings are separated shall be prefixed to "screenings oil feed."

OAT PRODUCTS

Oat Groats are the kernels of the oat berry.

Oat Hulls are the outer chaffy coverings of the oat grain.

Oat Middlings are the floury portions of the oat groat obtained in the milling of rolled oats.

Oat Shorts are the covering of the oat grain lying immediately inside the hull, being a fuzzy material carrying with it considerable portions of the fine floury part of the groat obtained in the milling of rolled oats.

Clipped Oat By-Product is the resultant by-product obtained in the manufacture of clipped oats. It may contain light chaffy material broken from the ends of the hulls, empty hulls, light, immature oats and dust. It must not contain an excessive amount of oat hulls.

PEANUT PRODUCTS

Peanut Oil Cake is the residue after the extraction of part of the oil by pressure or solvents from peanut kernels.

Peanut Oil Meal is the ground residue after the extraction of part of the oil from peanut kernels.

Unhulled Peanut Oil Feed is the ground residue obtained after extraction of part of the oil from whole peanuts and the ingredients shall be designated as **Peanut Meal and Hulls.**

RICE PRODUCTS

Rice Bran is the cuticle beneath the hull.

Rice Hulls are the outer chaffy coverings of the rice grain.

Rice Polish is the finely powdered material obtained in polishing the kernel.

RYE PRODUCTS

Rye Middlings or Rye Feed consists of the products other than the flour obtained in the manufacture of the ordinary "100 per cent." rye flour from the rye grain which has been cleaned and scoured.

Rye Red Dog Flour consists of a mixture of low-grade flour, fine particles of bran and the fibrous offal from the "tail of the mill."

VELVET BEAN PRODUCTS

Velvet Bean Meal is ground velvet beans containing an unavoidable trace of hulls or pods.

Ground Velvet Bean and Pod is the product derived by grinding velvet beans "in the pod." It contains no additional pods or other material.

WHEAT PRODUCTS

Wheat Bran is the course outer coating of the wheat kernel as separated from cleaned and scoured wheat in the usual process of commercial milling.

Standard Middlings (Red Shorts or Brown Shorts) consists mostly of the fine particles of bran, germ and very little of the fibrous offal obtained from the "tail of the mill." This product must be obtained in the usual commercial process of milling.

Gray Shorts (Gray Middlings or Total Shorts) consists of the fine particles of the outer bran, the inner or "bee-wing" bran, the germ, and the offal or fibrous material obtained in the usual commercial process of flour milling.

Flour Middlings shall consist of standard middlings and red dog flour combined in the proportions obtained in the usual process of milling.

White Shorts or **White Middlings** consists of a small portion of the fine bran particles and the germ and a large portion of the fibrous offal obtained from the

"tail of the mill." This product must be obtained in the usual process of flour milling.

Red Dog Flour consists of a mixture of low-grade flour, fine particles of bran and the fibrous offal from the "tail of the mill."

Wheat Mixed Feed (Mill Run Wheat Feed) consists of pure wheat bran and the gray or total shorts or flour middlings combined in the proportions obtained in the usual process of commercial milling.

Wheat Bran and **Standard Middlings** consists of the two commodities as defined above mixed in the proportions obtained in the usual process of commercial milling.

Screenings consists of the smaller imperfect grains, weed seeds and other foreign materials, having feeding value, separated in cleaning the grain.

Scourings consists of such portions of the cuticle, brush, white caps, dust, smut and other materials as are separated from the grain in the usual commercial process of scouring.

(Note)—If to any of the wheat by-product feeds there should be added screenings or scourings, as defined either ground or unground, bolted or unbolted, such brand shall be so registered, labeled and sold as clearly to indicate this fact. The word "Screenings" or "Scourings" as the case may be, shall appear as a part of the name or brand and shall be printed in the same size and face of type as the remainder of the brand name. When the word "Screenings" appears it is not necessary to show also on the labeling the word "Scourings."

MISCELLANEOUS PRODUCTS

Dried Beet Pulp is the material obtained by drying the residue from sugar beets which have been cleaned and freed from crowns, leaves and sand and which have been extracted in the process of manufacturing sugar.

Cocoanut Oil Meal ("Copra Oil Meal") is the ground residue from the extraction of part of the oil from the dried meat of the cocoanut.

Ivory Nut Meal is ground ivory nuts.

Palm Kernel Oil Meal is the ground residue from the extraction of part of the oil by pressure or solvents from the kernel of the fruit of Elaeis guineensis or Elaeis malanococca.

Yeast or Vinegar Dried Grains are the properly dried residue from the mixture of cereals, malt and malt sprouts (sometimes cottonseed-meal) obtained in the manufacture of yeast or vinegar, and consists of corn or corn and rye from which most of the starch has been extracted, together with malt added during the manufacturing process to change the starch to sugars, and malt sprouts (sometimes cottonseed-meal) added during the manufacturing process to aid in filtering the residue from the wort and serve as a source of food supply for the yeast.

TENTATIVE DEFINITIONS

41.12 Percent. Protein Cottonseed Meal, Choice Quality, must be finely ground, not necessarily bolted, perfectly sound and sweet in odor, yellow free from excess of lint, and by analysis must contain at least 41.12 percent. crude protein, equivalent to 8 percent, of ammonia.

Cottonseed Meal not fulfilling the above requirements as to color, odor or texture, shall be branded Off Quality.

38.56 Percent. Protein Cottonseed Meal, Prime Quality, must be finely ground not necessarily bolted, of sweet odor, reasonably bright in color, yellow, not brown or reddish, free from excess of lint, and by analysis must contain at least 38.56 percent. crude protein, equivalent to 7½ percent. of ammonia.

Cottonseed Meal not fulfilling the above requirements as to color, odor or texture, shall be branded Off Quality.

36 Percent. Protein Cottonseed Meal, Good Quality, must be finely ground, not necessarily bolted, of sweet odor reasonably bright in color, and by analysis must contain at least 36 percent, crude protein, equivalent to 7 percent. of ammonia.

Cottonseed Meal not fulfilling the above requirements as to color, odor or texture, shall be branded Off Quality.

Fish Meal shall be the dried, ground tissues of fish made from undecomposed fish, with or without the extraction of part of the oil.

Fish Residue Meal shall be the clean undecomposed residue from the manufacture of glue or other fishery products and to be from non-oily fish.

Maltose Process Corn Gluten Feed is the dried residue from degermed corn, after removal of starch in the manufacture of malt syrup.

Ground Barley is the entire product obtained by grinding clean sound barley, containing not less than 90 percent. pure barley and not more than 10 percent. of other grains, weed seeds and other foreign material and not more than 6 percent. fiber. Provided that no portion of this stated 10 percent. of other grains, weed seeds or foreign material shall be deliberately added.

Mixed Feed Barley is the entire product obtained by grinding country run barley containing not less than 75 percent. pure barley and not more than 25 percent. of other grains, weed seeds and other foreign material. Provided that

no portion of this stated 25 percent. of other grains, weed seeds or foreign material shall be deliberately added. The ingredients must be stated as barley, other grains, weed seeds and other foreign material.

Rice Bran is the pericarp or bran layer of the rice grain, with only such quantity of hull fragments as is unavoidable in the regular milling of rice.

Chopped Alfalfa is the entire alfalfa hay, chopped and not ground finely enough to become a meal. It must not contain an admixture of alfalfa straw or other foreign material.

Ear Corn Chops is corn and cob, chopped, without the husk, with not a greater proportion of cob than occurs in the ear corn in its natural state.

Head Chops consists of the entire head of the grain sorghums, chopped, and should bear the name of the sorghum from which it is made. This includes among others, kafir head chops, milo head chops, feterita head chops, and sorghum head chops.

Head Stems consists of the head of the grain sorghums, from which the grain has been removed, and should bear the name of the sorghum from which it is made.

PRACTIAL USE OF FEEDS.

The Maryland Feedingstuffs law requires that most feeds be marked or tagged with the name and analysis of the same, that they be registered at the University of Maryland and that the University shall inspect and analyze them from time to time to see that the guaranteed analysis is correct. The common grains, ground or unground, are not required to be registered or to bear the analysis but are required to be unadulterated.

Protein is the most expensive constituent of feeds and of first consideration, especially when used to supplement the ordinary farm feeds. The common roughages and even corn are deficient in protein for most feeding purposes, especially for growing animals and for dairy cows. Protein is required for the growth of animals, for tissue formation and repair, while fat and carbohydrates furnish energy. As the farmer or dairyman generally buys concentrated feed to supplement his roughage and corn he will want a feed with considerably more protein than the latter, that is more than 10 percent, so as to properly supplement or "balance" the ration. The kind and amount will depend on the home feed to be supplemented and the kind of animal. A maintenance ration, as is required for horses, should not be as rich in protein as should that for growing animals or for dairy animals.

Cotton seed meal is a very important concentrate but should contain at least 36% of protein,—better 41% if it can be obtained. If it contains less it is adulterated with cotton seed hulls, which are about on a par with straw for feeding purposes. A mixture of cotton seed meal and hulls is often sold under the name of "Cotton Seed Feed," with a guarantee of 20% protein. This is sometimes purchased under the impression that one is getting cotton seed meal. The purchaser should note the analysis especially as the mixture sometimes is branded "Cotton Seed Feed Meal" for the purpose, apparently, of deceiving the purchaser.

For a list of valuable bulletins see page 24. It is also recommended that those interested in feeding get one or more of the standard works on feeding there listed.

For directions in regard to the practical use of feeds the following bulletins, which will be sent free upon application to the U. S. Department of Agriculture, Washington, D. C., are recommended:—

Farmers' Bulletins:

22. Feeding Farm Animals.
170. Principles of Horse Feeding.
205. Pig Management.
287. Poultry Management.
411. Feeding Hogs in the South.
.743 Feeding Dairy Cows.
777. Dairy Calves.
810. Equipment for Farm Sheep Raising.
840. Farm Sheep Raising for Beginners.
873. Utilization of Farm Wastes in Feeding Live Stock.
985. Hog Farming.
1030. The Feeding of Horses.
1067. Feeding Hens For Egg Production.
1111. Management of Growing Chicks.
1179. Feeding Cotton Seed Products.
1181. Raising Sheep on Temporary Pastures.

Department Bulletin No. 459, Computation of Rations for Farm Animals.

Bureau Animal Industry Bulletin No. 1433, Maintenance Rations.

The following books are highly recommended. Order from the publishers at the prices named:

Feeds and Feeding, Abridged, Henry & Morrison. Published by the Henry-Morrison Company, Madison, Wis., Price $1.75.

Feeding of Animals, W. H. Jordan. Published by the Macmillan Company, New York, Price $1.75.

The Nutrition of Farm Animals, H. P. Armsby. Published by the Macmillan Co., New York, Price $2.60.